CLAIMS

What is claimed is:

1. A compound that inhibits the binding of the free light chain of immunoglobulin to mast cells, wherein the compound, in the presence of an equimolar quantity of the free light chain of immunoglobulin, reduces binding between the free light chain of immunoglobulin and said mast cells by at least 5%, said compound not being Tamm-Horsefall glycoprotein (THP), or LC-binding peptide fragments thereof.

2. The compound of claim 1, wherein the compound can bind to the free light chain of immunoglobulin and can compete with a peptide capable of binding to the free light chain of immunoglobulin, said peptide having the amino acid sequence (AHWSGHCCL)(SEQ ID NO:1), and wherein said compound, in the presence of an equimolar quantity of said peptide, reduces binding between said peptide and said free light chain of immunoglobulin by at least 5%.

3. The compound of claim 1 or 2, wherein the compound reduces the binding between the peptide and the free light chain of immunoglobulin by at least 10%, preferably by at least 25%, more preferably by at least 50%, even more preferably by at least 75%, and most preferably by 90%.

4. The compound of claim 2 or 3, wherein the compound is a peptidomimeticum.

5. The compound according to any one of the preceding claims, wherein the compound is a pharmaceutically acceptable compound.

6. A method of screening a series of compounds based on their ability to bind the free light chain of immunoglobulin, said method comprising:

using a labeled compound capable of binding the free light chain of immunoglobulin and capable of competing with a peptide for binding to the free light chain of immunoglobulin; and

performing a test comprising a competition reaction between at least one compound of said series compounds and said peptide for binding to the light chain of immunoglobulin.

7. The method according to claim 6, wherein said test is a homogenous test.

8. The method according to claim 6 or 7, wherein the test is based on fluorescence (de)polarization or internal energy transfer.

9. A method for screening a series of compounds based on their ability to reduce the sensitization of mast cells, said method comprising:

incubating at least one compound of said series of compounds with a labeled free light chain of immunoglobulin with said mast cells; and

detecting reduced binding of the labeled free light chain of immunoglobulin to said mast cells.

10. A compound for use in treating a disease, said disease characterized by symptoms comprising:

i) a concentration of the free light chain of immunoglobulin in serum of at least 8 mg/l, in particular of at least 15 mg/l and more in particular 20 mg/l; and/or

ii) a concentration of the free light kappa-chain of immunoglobulin in spinal fluid of at least 70 μg/l, in particular at least 100 μg/l, and more in particular 150 μg/l; and/or

iii) a concentration of the free lambda-chain of immunoglobulin in spinal fluid of at least 300 μg/l, in particular at least 400 μg/l, and more in particular 500 μg/l,

said drug comprising a compound according to any one of the claims 1 to 5, the compound obtained by using the method according to any one of the claims 6 to 9, Tamm-Horsefall glycoprotein (THP) and LC-binding peptide fragments thereof.

11. The drug of claim 10, wherein the compound is a peptide or peptidomimeticum with a mass of less than 10 kDal, preferably less than 2 kDal.

12. The drug of claim 10 or 11, wherein the disease is selected from the group consisting of asthma, allergy, chronic inflammatory bowel disorders, viral infection and multiple sclerosis.

13. A pharmaceutical composition comprising a compound according to any one of the

claims 1 to 5 or obtained according to any one of the claims 6 to 9 or Tamm-Horsefall glycoprotein (THP) or LC-binding peptides thereof together with a pharmaceutically acceptable carrier or excipient.

14. A method of diagnosing a disease in a patient having an elevated level of the free light chain of immunoglobulin in a bodily fluid, said method comprising:

contacting a foreign antigen specific for the disease with the bodily fluid from the patient; and

determining the presence of a complex of the foreign antigen and the free light chain of immunoglobulin.

15. The method according to claim 14, wherein determining the complex comprises using a labeled antibody directed against the free light chain of immunoglobulin.